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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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07/965,427 10/23/92 SALCUDEAN

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26M2/1029

S	URC53US
EXAMINER	
CHANG, V	
ART UNIT	PAPER NUMBER

2609

DATE MAILED:

10/29/93

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 08/02/93 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/>   |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-18 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1-15 are rejected.
5. ☒ Claims 16-18 are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

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1) The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

2) Claims 1-15 are rejected under 35 U.S.C. § 103 as being unpatentable over Clark in view of Cadoz et al.

As to claim 1, Clark teaches a controller comprising: a base (see 12 in Fig 3), a platform (see 11 in Fig 3), means for mounting the platform for a range of movement in a plane in each of two different directions (see column 2 lines 11-27 and column 4 lines 15-45). Clark does not teach the first and second magnetic force applying means.

However, Cadoz teaches the first magnetic force applying means including a first magnet means and a first cooperating magnetic force generating means (see 14, 20 in Fig 3 and column 3 lines 62- column 4 line 50). Furthermore, Cadoz suggests the force applying means can be modified to simulate the behavior of

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a joy stick with two degrees of freedom; see column 7 lines 1-9. Thus in such a case when a movement with two degrees of freedom being simulated, it would have been obvious to include a second magnetic force applying means which included a second magnet means and a second cooperating magnetic force generating means in the teaching of Cadoz so that the movement in a second direction which is different from the first direction i.e. x and y directions can be simulated according to Cadoz's suggestion.

Thus ~~it~~ would have been obvious to include the first and second magnetic force applying means taught by Cadoz in the device of Clark with such an arrangement of the first and second magnet means being positioned fixedly relative to each other on the base 12 and the first and second cooperating magnetic force generating means being positioned fixedly relative to each other on the platform (11) which is slidable so that magnetic forces in two different directions (i.e. x and y mutually perpendicular directions as shown in Fig 3) can be selectively generated to provide tactile feedback to the operator.

As to claim 2, the device of Clark as modified meets the limitation since a second magnetic force applying means has to be arranged in an orthogonal direction relative to the first direction since only if two mutually perpendicular force is generated, two perpendicularly directed movements (x and y movements) can be simulated.

As to claim 3, Clark teaches a sensing means (see Fig 4a, 4b and column 5 lines 1-40).

As to claims 4-6, Clark teaches a sensor means for sensing the position of the platform (11) which comprises a transparent grid (see 21, 22), a light source (see 27), and a detector means (see 23/24, 25/26 and column 5 line 1- column 6 line 39).

As to claims 7, 9, 10, 12, 13 and 15, the device of Clark as modified by Cadoz meets all the limitations set forth.

As to claims 8, 11 and 14, eventhough Cadoz does not mention the projected area of the field generated by the magnet means is constant, it is obvious that the device of Clark modified by Cadoz has to make the projected area of the magnetic field constant so that a constant magnetic force can be generated which provides constant tactic feedback force to the operation.

3) Claims 16-18 are would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112 and to include all of the limitations of the base claim and any intervening claims.

4) Applicant's arguments with respect to claims 1-15 have been considered but are deemed to be moot in view of the new grounds of rejection.

A new rejection of independent claim 1 has been set forth above since the claim was amended to include the limitation of the first and second magnet means being fixed relative to each other on the base and the first and second cooperating magnetic

force generating means being fixed relative to each other on the platform. The reference to Purcell has been replaced by the reference to Clark which is now modified by the reference to Cadoz to teach all the limitations including the newly added limitations as mentioned above.

As to claim 2, in view of the teaching of Cadoz, it is well known that a movement in two degrees of freedom can be in x and y direction, in such a case, a second magnetic force applying means would have been arranged in an orthogonal direction relative to the first direction since the input device works in two mutually perpendicular directions.

Applicant states that the parts, which include two friction drives and three conventional bearings plus the coil guides, would be included in the device of Cadoz if a two degrees of freedom joystick is emulated. It is not clear based on what such a conclusion is made and even if this is the case the claim does not preclude those parts anyway.

As to claims 4 and 6, the reference to Yuasa has been dropped since the new rejection is necessitated by the new limitations added to independent claim 1; see the rejections above.

5) Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

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A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

6) Any inquiry concerning this communication should be directed to Vivian Chang at telephone number (703) 308-6739.

V.Chang:tj  
October 21, 1993



ALVIN E. OBERLEY  
SUPERVISORY PATENT EXAMINER  
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